

**U.S. Pat. Appl. Ser. No. 10/577,378  
Attorney Docket No. 10191/4231  
Reply to Office Action of May 6, 2009**

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-21. (Canceled).

22. (Currently Amended) An [[The]] antenna system as recited in Claim 21 for a radar application in a motor vehicle, comprising:

an antenna feeding substrate having conductor structures for field coupling to at least one planar antenna radiating element; and

a mounting part, able to be fixed in position against the antenna feeding substrate, for the at least one planar antenna radiating element, one of the mounting part and a housing part able to be joined to the at least one planar antenna radiating element with form locking being provided for an HF-shielding of the antenna feeding substrate;

wherein:

at least one of the mounting part and the housing part is structured in such a way that, viewed from the at least one planar antenna radiating element in a radiation direction, a wave guidance is achieved; and

the housing part includes bars in a direction of the antenna feeding substrate for forming HF compartments over the antenna feeding substrate.

23. (Currently Amended) The antenna system as recited in Claim [[21]] 22, wherein the at least one planar antenna radiating element is applied on at least one side of a dielectric substrate.

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24. (Previously Presented) The antenna system as recited in Claim 23, wherein the housing part includes at least one cut-out for introducing one of the at least one planar antenna radiating element and the dielectric substrate, ~~, in case the at least one planar antenna radiating element is applied on the latter, or for forming at least one complementary, planar antenna radiating element, a cut out forming a slot antenna.~~

25. (Previously Presented) The antenna system as recited in Claim 23, wherein a distance between the antenna feeding substrate and one of the at least one planar antenna radiating element and the dielectric substrate is less than one fourth an operating wavelength.

26. (Previously Presented) The antenna system as recited in Claim 23, wherein a distance between the antenna feeding substrate and one of the at least one planar antenna radiating element and the dielectric substrate is 0.02 to approximately 0.1 of an operating wavelength.

27. (Currently Amended) The antenna system as recited in Claim [[21]] 22, wherein in a region of the at least one planar antenna radiating element, a housing part includes at least one opening in a direction of the antenna feeding substrate, and a transition from a bottom/end of the at least one opening to an outside of the housing part is designed to be one of horn-shaped and funnel-shaped.

28. (Previously Presented) The antenna system as recited in Claim [[21]] 22, wherein the mounting part itself forms the housing part.

29. (Currently Amended) The antenna system as recited in Claim [[21]] 22, wherein one of the mounting part and the housing part includes an outer cover made of a dielectric material that is formed and dimensioned in such a way that the outer cover can be used as one of a radome and a superstrate.

30. (Previously Presented) The antenna system as recited in Claim 29, wherein the outer cover, in a region of a cut-out, has at least one projection that engages with form locking in an opening.

31. (Currently Amended) The antenna system as recited in Claim 30, wherein in the case of complementary (~~inverse~~) planar antenna radiating elements, the at least one projection protrudes through the cut-out.

32. (Currently Amended) An [[The]] antenna system as recited in Claim 31 for a radar application in a motor vehicle, comprising:

an antenna feeding substrate having conductor structures for field coupling to at least one planar antenna radiating element; and

a mounting part, able to be fixed in position against the antenna feeding substrate, for the at least one planar antenna radiating element, one of the mounting part and a housing part able to be joined to the at least one planar antenna radiating element with form locking being provided for an HF-shielding of the antenna feeding substrate;

wherein:

at least one of the mounting part and the housing part is structured in such a way that, viewed from the at least one planar antenna radiating element in a radiation direction, a wave guidance is achieved;

one of the mounting part and the housing part includes an outer cover made of a dielectric material that is formed and dimensioned in such a way that the outer cover can be used as one of a radome and a superstrate;

the outer cover, in a region of a cut-out, has at least one projection that engages with form locking in an opening;

in the case of complementary planar antenna radiating elements, the at least one projection protrudes through the cut-out; and

the at least one planar antenna radiating element is embedded by being injected into the mounting part.

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33. (Currently Amended) An [[The]] antenna system as recited in Claim 21 for a radar application in a motor vehicle, comprising:

an antenna feeding substrate having conductor structures for field coupling to at least one planar antenna radiating element; and

a mounting part, able to be fixed in position against the antenna feeding substrate, for the at least one planar antenna radiating element, one of the mounting part and a housing part able to be joined to the at least one planar antenna radiating element with form locking being provided for an HF-shielding of the antenna feeding substrate;

wherein:

at least one of the mounting part and the housing part is structured in such a way that, viewed from the at least one planar antenna radiating element in a radiation direction, a wave guidance is achieved; and

the at least one planar antenna radiating element is incorporated into a dielectric functional part that is insertable, with form locking, into an opening of one of the mounting part and the housing a supplementary part.

34. (Currently Amended) The antenna system as recited in Claim [[21]] 22, wherein the mounting part has snap-in locking elements for introducing and fixing the at least one planar antenna radiating element in position.

35. (Currently Amended) The antenna system as recited in Claim [[21]] 22, wherein M antenna radiating elements are provided, and N associated coupling slots in the antenna feeding substrate [[(1)]] for the field coupling, M and N being natural numbers, and M being greater than N.

36. (Previously Presented) The antenna system as recited in Claim 35, wherein different distances are provided between the coupling slots and/or the antenna radiating elements.

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37. (Currently Amended) An [[The]] antenna system as recited in Claim 21 for a radar application in a motor vehicle, comprising:

an antenna feeding substrate having conductor structures for field coupling to at least one planar antenna radiating element; and

a mounting part, able to be fixed in position against the antenna feeding substrate, for the at least one planar antenna radiating element, one of the mounting part and a housing part able to be joined to the at least one planar antenna radiating element with form locking being provided for an HF-shielding of the antenna feeding substrate;

wherein:

at least one of the mounting part and the housing part is structured in such a way that, viewed from the at least one planar antenna radiating element in a radiation direction, a wave guidance is achieved; and

at least two antenna radiating elements are provided, stacked one above the other, at least one of the antenna radiating elements in particular being incorporated into a dielectric functional part or a radome.

38. (Previously Presented) The antenna system as recited in Claim 37, wherein at least two planar antenna radiating elements and/or inverse, planar antenna radiating elements are inclined relative to each other with respect to their surface normals.

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39. (Currently Amended) An [[The]] antenna system as recited in Claim 24 for a radar application in a motor vehicle, comprising:

an antenna feeding substrate having conductor structures for field coupling to at least one planar antenna radiating element; and

a mounting part, able to be fixed in position against the antenna feeding substrate, for the at least one planar antenna radiating element, one of the mounting part and a housing part able to be joined to the at least one planar antenna radiating element with form locking being provided for an HF-shielding of the antenna feeding substrate;

wherein:

at least one of the mounting part and the housing part is structured in such a way that, viewed from the at least one planar antenna radiating element in a radiation direction, a wave guidance is achieved; and

both planar antenna radiating elements and inverse, planar antenna radiating elements are provided, the inverse, planar antenna radiating elements being inclined relative to each other with respect to their surface normals.

40. (Previously Presented) The antenna system as recited in Claim 39, wherein the number of planar antenna radiating elements differs from the number of inverse, planar antenna radiating elements.

41. (Previously Presented) The antenna system as recited in Claim 39, wherein the inverse, planar antenna radiating elements are situated in the mounting part, and the planar antenna radiating elements in a cover.

42. (New) The antenna system as recited in Claim 32, wherein the cut-out forms a slot antenna.